



Cynthia J. Roberts, Ph.D.

Martha G. and Milton Staub Chair for Research in Ophthalmology
Professor of Ophthalmology and Biomedical Engineering



Education

B.S. in Nursing with distinction, University of Iowa, 1979

M.S. in Electrical Engineering, The Ohio State University,
1986

Ph.D. in Biomedical Engineering, The Ohio State
University, 1989

Professional Service

Consultant to the Ophthalmic Devices Panel of the FDA

Editorial Board Member, Journal of Refractive Surgery

Editorial Board Member, Journal of Cataract and
Refractive Surgery

Guest Editor, Special Issue on Biomechanics, Journal of
Cataract and Refractive Surgery, Jan 2005

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Research Interests

Dr. Roberts' research interests include corneal biomechanics in glaucoma and refractive surgery, ophthalmic imaging including topography, Optical Coherence Tomography, optical wavefront sensing, and functional MRI, as well as laser-cellular interactions of trabecular meshwork endothelial cells.

Teaching

Dr. Roberts regularly teaches courses for CME credit at the American Academy of Ophthalmology, and both the American and European Societies of Cataract and Refractive Surgery. Topics include corneal topography and corneal biomechanics. Dr. Roberts has also taught

Selected Publications

Roberts C: "The Cornea is Not a Piece of Plastic." *Journal of Refractive Surgery*, 2000; 16:407-413.

Qazi M, Roberts C, Mahmoud A, Pepose J: "Topographic and Biomechanical Differences Between Hyperopic and Myopic Laser In Situ Keratomileusis." *Journal of Cataract and Refractive Surgery*, 2005; 31(1): 48-60.

Twa M, Roberts C, Mahmoud A, Chang J: "Response of the Posterior Corneal Surface to Laser In Situ Keratomileusis for Myopia." *Journal of Cataract and Refractive Surgery*, 2005; 31(1): 61-71.

Grzybowski D, Roberts C, Mahmoud A, Chang J: "Model for Nonectatic Increase in Posterior Corneal Elevation After Ablative Procedures." *Journal of Cataract and Refractive Surgery*, 2005; 31(1): 72-81.

Vinciguerra P, Torres-Munoz M, Camesasca F, Grizzi F, Roberts C: "Long-Term Follow Up of Ultrathin Corneas After Surface Retreatment With Phototherapeutic Keratectomy." *Journal of Cataract and Refractive Surgery*, 2005; 31(1): 82-87

Potgieter F, Roberts C, Cox I, Mahmoud A, Herderick E, Roetz M, Steenkamp W: "Prediction of Flap Response." *Journal of Cataract and Refractive Surgery*, 2005; 31(1): 106-114.

Guell J, Velasco F, Roberts C, Sisquella M, Mahmoud A: "Corneal Flap Thickness and Topography Changes Induced by Flap Creation During Laser In Situ Keratomileusis." *Journal of Cataract and Refractive Surgery*, 2005; 31(1): 115-119

Liu J, Roberts C: "Influence of Corneal Biomechanical Properties on Intraocular Pressure Measurement: Quantitative Analysis." *Journal of Cataract and Refractive Surgery*, 2005; 31(1): 146-155.

Roberts C. "Biomechanical Customization: The Next Generation of Laser Refractive Surgery." *J of Cataract and Refractive Surgery*, 2005; 31(1): 2-5.

Twa M, Lembach R, Bullimore M, Roberts C: "A Prospective Randomized Clinical Trial of Laser In-Situ Keratomileusis Using Two Different Lasers." *American Journal of Ophthalmology*, 2005; 140(2):173-83.

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